ARC 3010-B0
Lighting Controller

COLORMAKER

USER MANUAL

ENGLISH

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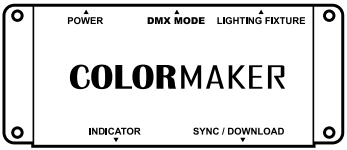
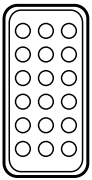
Before Installation

List of Consumables or Assembly Components

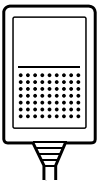
Please make sure the following items are included.





Remote Control

USB



Adaptor

RJ-45 Connector

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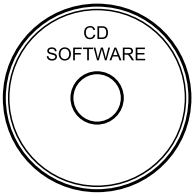

Terminal Blocks

Chapter 1 Features of COLORMAKER

Specifications and Features

Applying standard DMX512 protocol, COLORMAKER creates various color and brightness for DMX512(or ARC unique DMX+)-like lighting fixtures. Together with COLORMAKER, a user-friendly application interface called LightShow Pixel is included. With LightShow Pixel, user may easily design or edit their own lighting effects in the computer, and then download the effects to the controller through USB port. To show different lighting effects, users may simply use IR remote control to choose. COLORMAKER is suitable for the applications like LED walls, advertising signage, and architecture lighting.

1. System

- 32 bit ARM CPU, 20MHz
- Flash Memory 2048K Bytes
- USB To UART IC

2. I/O Port

- IR Remote Control (≦8 m)
- USB-A Adapter (USB2.0 compatible)
- RS485 Synchronize Connector (RS485 output signals)
- RJ-45 Network Adapter (DMX512 / DMX+ output signals)

3. Display-Control Capability

- DMX512 : Control a maximum of 170 pixels RBG LED light
- DMX+ : Control a maximum of 256 pixels RBG LED light

4. Lighting Effects

- Built-In : 16 segments
- User-defined : 16 user-defined display segments (edited with software)
- Compound : 8 segments from 1 to 32 compound segments (edited with software)
- Memory space of the controller is about 2M Bytes, which can be divided into 16+8 display content segments.
- Display lighting effects are stored with ARC self-developed technology, which can decide the size of the display segments according to the change ratio and refresh frequency.
- Enable to set the display schedule in compound lighting effects.

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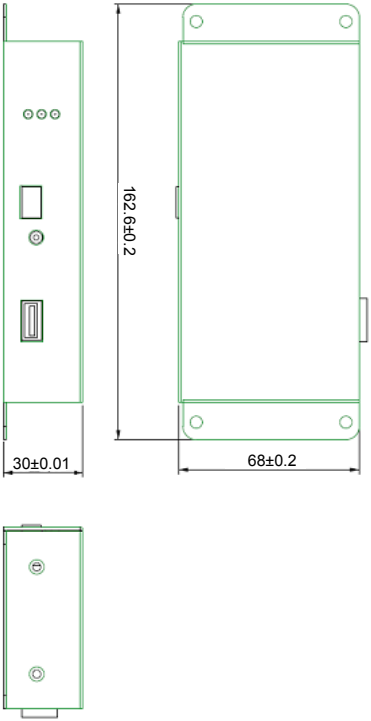
5. IR Remote Control

- Display lighting effects (40 segments) and display speed (20 levels speed)
- Select to Pause or Stop display
- Current display lighting effects and speed can be stored for Start-Up.

6. Electrical Characteristics

- Input Voltage: DC8V~24V/ about 1Watt.
- Operating Temperature: 0°C ~ 60°C
- Operating Humidity: 20% ~ 90% RH

7. External Dimension : (mm)



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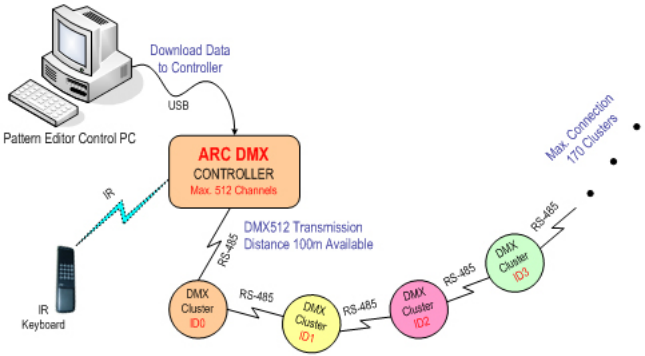
Chapter 2 Instructions

COLORMAKER Application System



COLORMAKER Connector Descriptions

1. Power Input

pin	Description
1	DC 8V~24V abot1W
2	Ground

2. DMX OUT

RJ45(母)

pin	Description	
1	DMX512 OUT+	DMX+ OUT+
2	DMX512 OUT-	DMX+ OUT -
3-6	N/A	
7-8	Gound	

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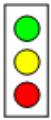
3. LED Indicator



Color	Description
Green	DC Power Indicator : Being extinguished indicates bad wire or power input is unavailable.
Yellow	DMX OUT RS-485Communication Indicator : Being extinguished indicates malfunctions in DMX OUT line of the controller.
Red	Communication Status Indicator : 1.Flash when receiving signals from IR Remote Control or USB communication instructions. 2.Lighting consistently when the controller is in slave mode. (ID≠0)

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4. USB Input

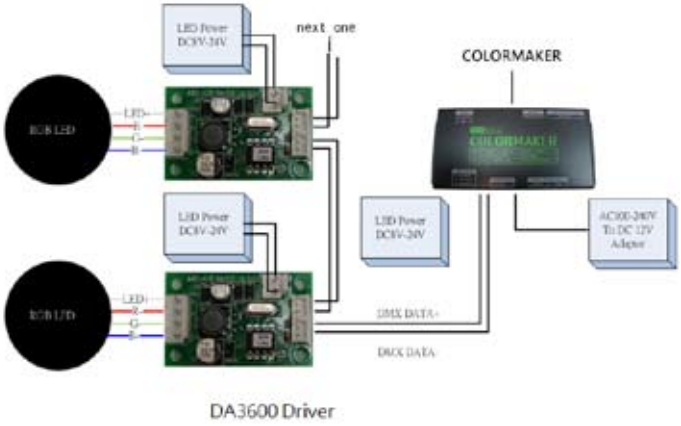
USB-A

pin	Description
1	DC +5V
2	USB Data : -
3	USB Data : +
4	Ground

5. RS485 Synchronizing Communication Connector

pin	Description
1	RS485 Data : +
2	RS485 Data : -
3	Ground

COLORMAKER Application System



The connection diagram of COLORMAKER connected to DA3600 Driver

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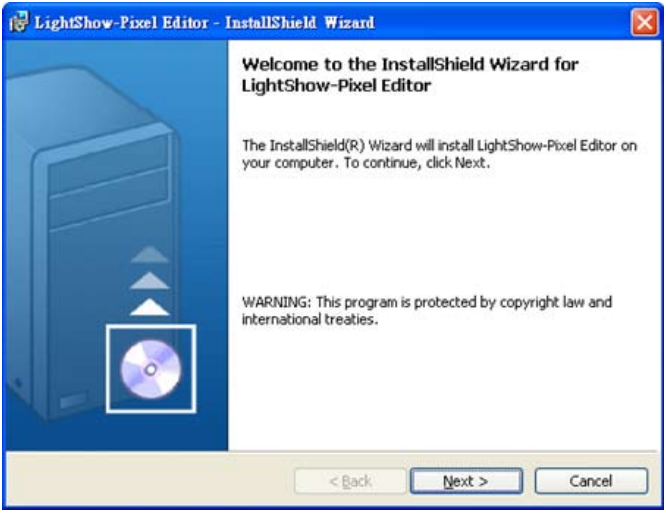
Chapter 3 Installation

Basic Requirement of Computer

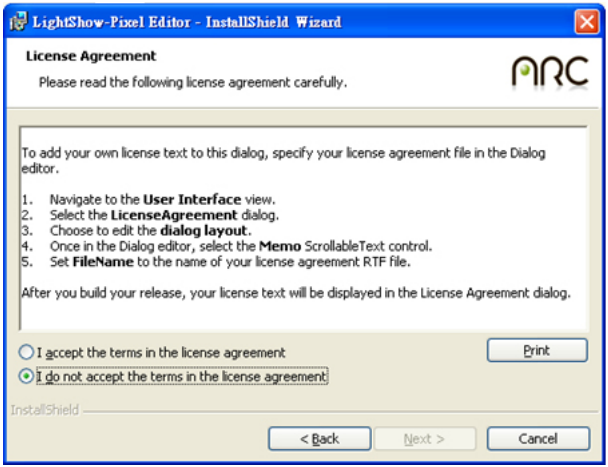
- IBM PC Pentium III 500Hz or above compatible
- Memory Capability : 256MB SDRAM or more
- Free Space on hard disk : 15MB or more
- Video Card : SVGA (Minimum resolution 1024x768)
- P/S 2 Mouse
- Windows 2000, 2003, Windows XP Vista or Windows 7

Installation of LightShow Pixel

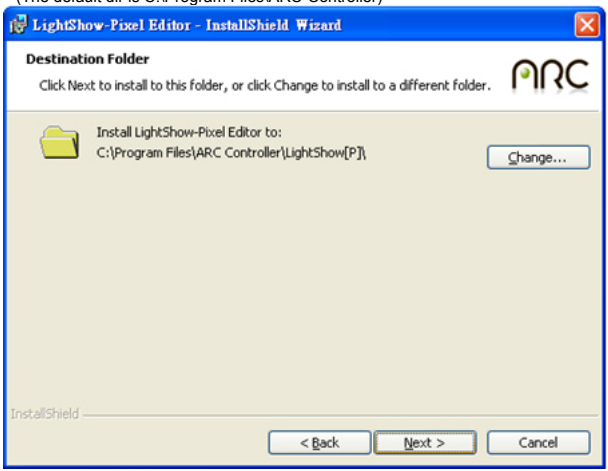
1. Execute Setup.exe and the Welcome page appears


LightShow-Pixel Editor - InstallShield Wizard
Welcome to the InstallShield Wizard for LightShow-Pixel Editor
The InstallShield(R) Wizard will install LightShow-Pixel Editor on your computer. To continue, click Next.
WARNING: This program is protected by copyright law and international treaties.
< Back
Next >
Cancel

2. Click (Next) and the License page appears


LightShow-Pixel Editor - InstallShield Wizard
License Agreement
Please read the following license agreement carefully.
ARC
To add your own license text to this dialog, specify your license agreement file in the Dialog editor.
1. Navigate to the User Interface view.
2. Select the LicenseAgreement dialog.
3. Choose to edit the dialog layout.
4. Once in the Dialog editor, select the Memo ScrollableText control.
5. Set FileName to the name of your license agreement RTF file.
After you build your release, your license text will be displayed in the License Agreement dialog.
I accept the terms in the license agreement
I do not accept the terms in the license agreement
Print
InstallShield
< Back
Next >
Cancel

3. Click"I accept.."and then click(Next)to set Install directory
(The default dir is C:\Program Files\ARC-Controller)



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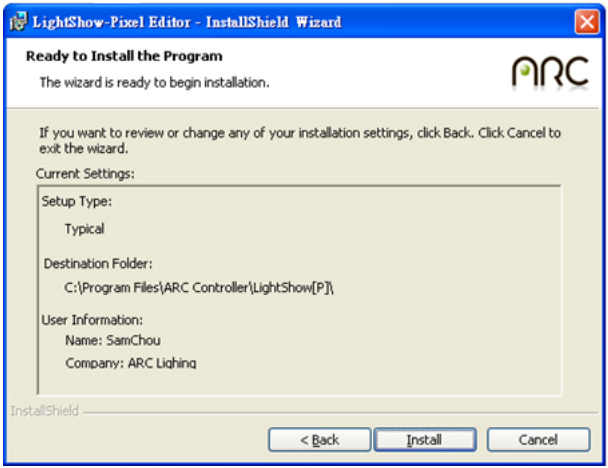
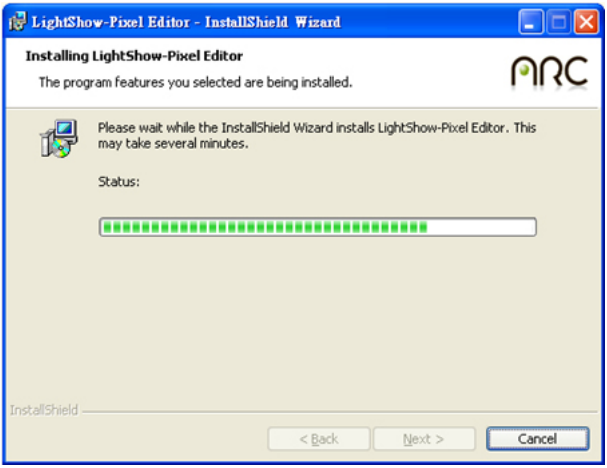
4. After changing the install directory, click(Next)to show the(Ready to Install the Program)and (user information page)



5. Click(Install)to begin installation


LightShow-Pixel Editor - InstallShield Wizard
Installing LightShow-Pixel Editor
The program features you selected are being installed.
ARC
Please wait while the InstallShield Wizard installs LightShow-Pixel Editor. This may take several minutes.
Status:
InstallShield
< Back
Next >
Cancel

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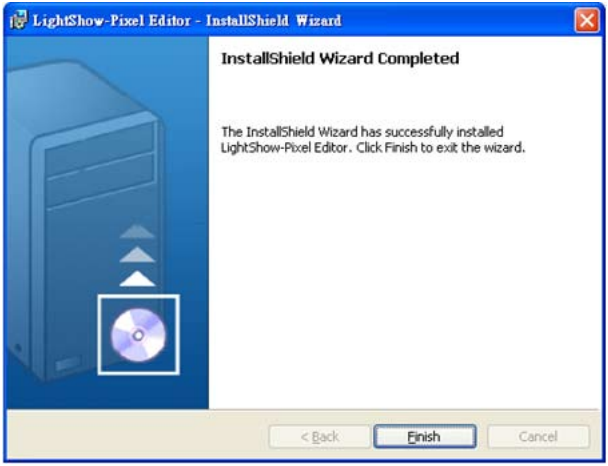
6. After the installation, the following page appears


LightShow-Pixel Editor - InstallShield Wizard
InstallShield Wizard Completed
The InstallShield Wizard has successfully installed LightShow-Pixel Editor. Click Finish to exit the wizard.
< Back
Finish
Cancel

7. Click(Finish)to complete the installation and users are able to find the following icon on the desktop.

and shortcut in the (Programs)

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Chapter 4 First Running

Entering LightShow Pixel

1. Double click the icon

on the desktop.
2. Click the shortcut (LightShow-Pixel Editor)entering the program.

Language Setting

When the software is used for the first time, user may choose suitable language environment to operate. Through GUI language setting in the system, user may switch from one language to the other. Currently, LightShow Pixel only supports three types of languages : English, Chinese Traditional, and Chinese Simplified. And default setting is English.

System Setting

The system setting of **LightShow Pixel** consists of two items : "Communication Port" setting of the controller, and "GUI Language" setting. "GUI Language" setting has been discussed in the above : user may use it to select desired operating language. While for "Communication Port" setting, user is suggested to select "AUTO", which means that users does not need to change this item. The controller, when connecting, shall decide automatically which type of communication port is to be used.

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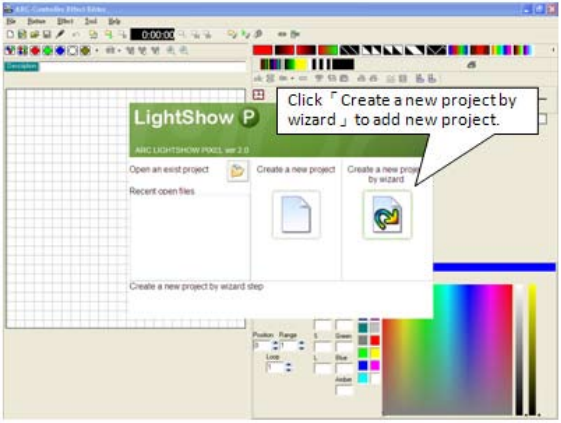
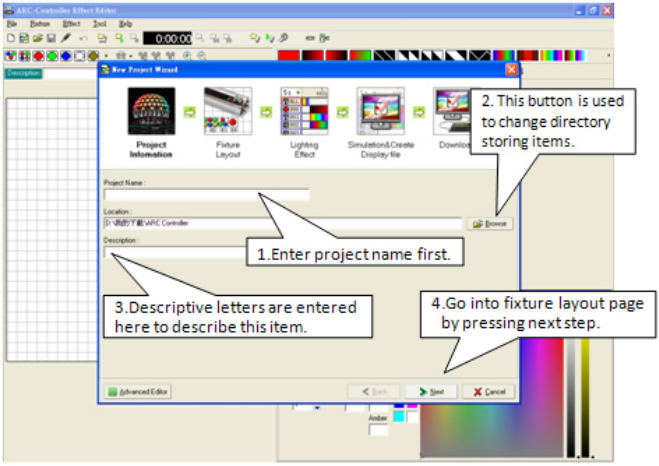
New Project Wizard Creating for the Effect Edit and Download

1. Enter item and click “Create a new project by wizard” to add new project.


Click 「Create a new project by wizard」 to add new project.
LightShow P
Open an exist project
Create a new project
Recent open files
Create a new project by wizard step

2. Enter basic data of item and go into fixture layout page by pressing next step



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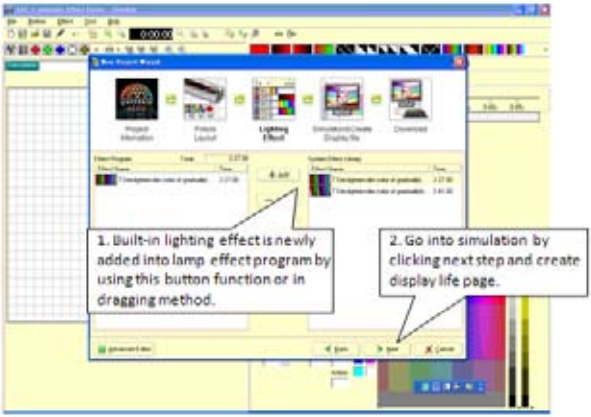
3. Enter fixture data. **LightShow Pixel** provides five fixtures of different types for newly added selection. When fixture data is entered, go into edit page of lighting effect by clicking next step.

1. When type of each used fixture and number of fixture are entered, fixture will be shown on tablecloth in real time.
2. Go into edit page of lighting effect by clicking next step.

4. Edit lighting effect data. **LightShow Pixel** provides built-in lighting effect for newly added selection. When edit of lighting effect finishes, execute simulation by clicking next step and create display file page.


1. Built-in lighting effect is newly added into lamp effect program by using this button function or in dragging method.
2. Go into simulation by clicking next step and create display life page.

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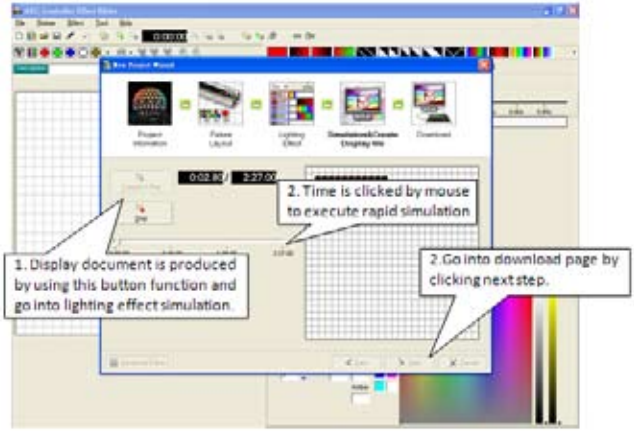
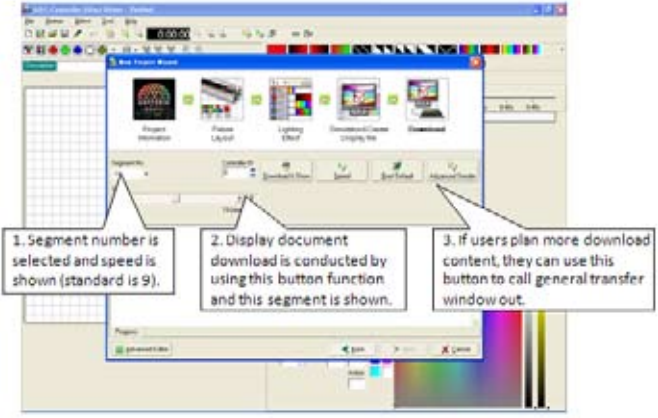
5. Simulation and Create display file. When lighting effect display file finishes, go into data download page by clicking next step.


2. Time is clicked by mouse to execute rapid simulation
1. Display document is produced by using this button function and go into lighting effect simulation.
2.Go into download page by clicking next step.

6. Lighting effect is downloading into the controller and this segment is set up and shown. The whole project is completely edited.


1. Segment number is selected and speed is shown (standard is 9).
2. Display document download is conducted by using this button function and this segment is shown.
3. If users plan more download content, they can use this button to call general transfer window out.

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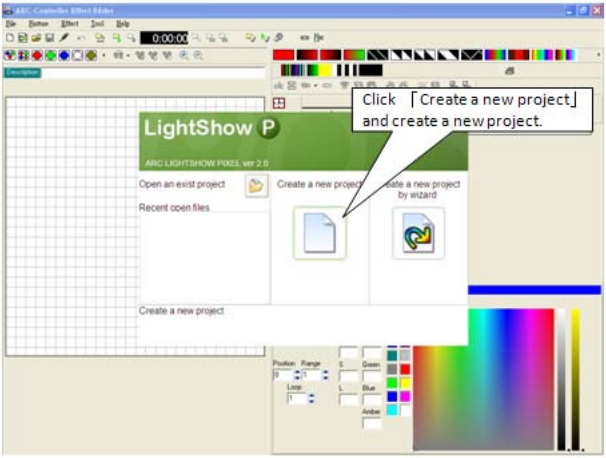
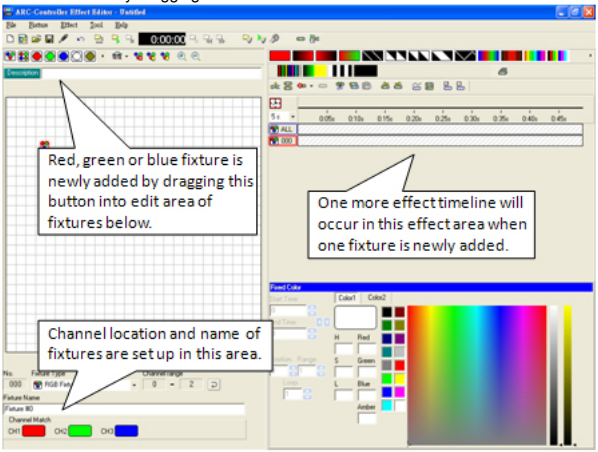
Basic Effect Edit and Download

1. Enter and click"Create a new project"


Click 「Create a new project」 and create a new project.
LightShow P
Open an exist project
Recent open files
Create a new project

2. Add new fixture by dragging.


Red, green or blue fixture is newly added by dragging this button into edit area of fixtures below.
One more effect timeline will occur in this effect area when one fixture is newly added.
Channel location and name of fixtures are set up in this area.

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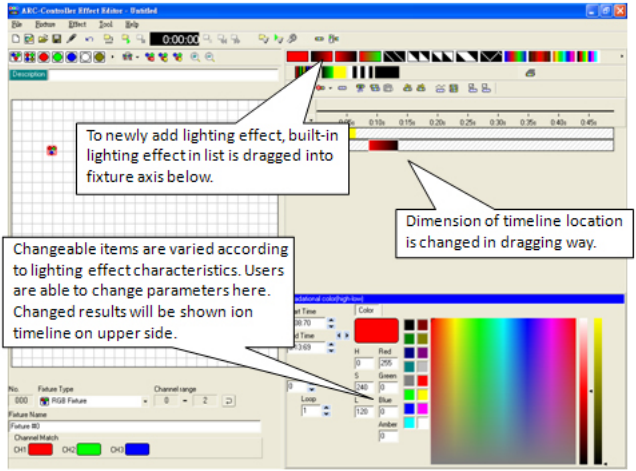
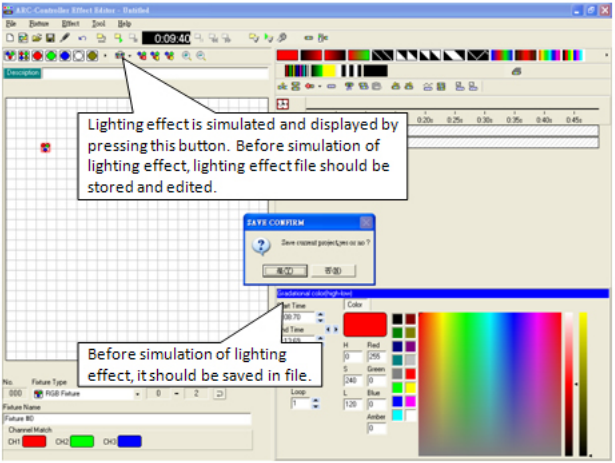
3. Picture of newly added lighting effect is shown by dragging


To newly add lighting effect, built-in lighting effect in list is dragged into fixture axis below.
Dimension of timeline location is changed in dragging way.
Changeable items are varied according to lighting effect characteristics. Users are able to change parameters here. Changed results will be shown ion timeline on upper side.

4. Simulation and Create Display file


Lighting effect is simulated and displayed by pressing this button. Before simulation of lighting effect, lighting effect file should be stored and edited.
Before simulation of lighting effect, it should be saved in file.

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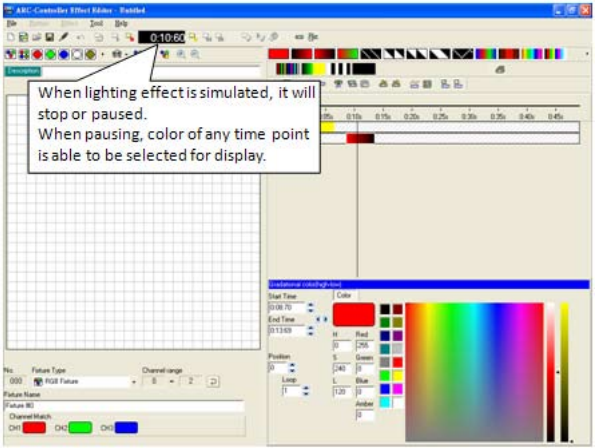
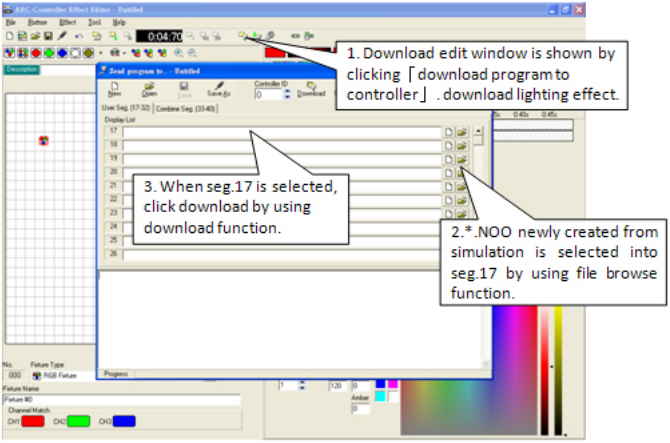
After saved in files, simulated display is shown in following graph:


When lighting effect is simulated, it will stop or paused.
When pausing, color of any time point is able to be selected for display.

5. Click "download program to controller"


1. Download edit window is shown by clicking「download program to controller」. download lighting effect.
3. When seg.17 is selected, click download by using download function.
2.*.NOO newly created from simulation is selected into seg.17 by using file browse function.

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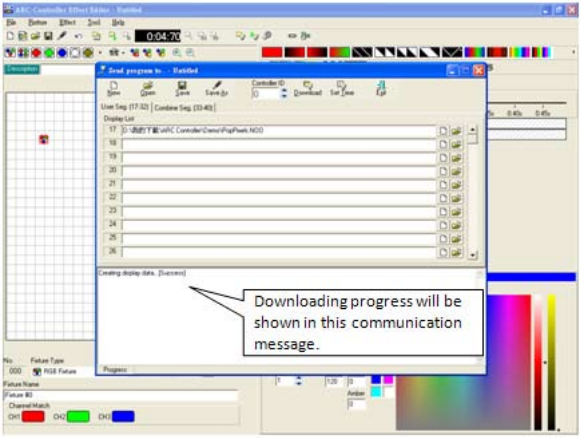
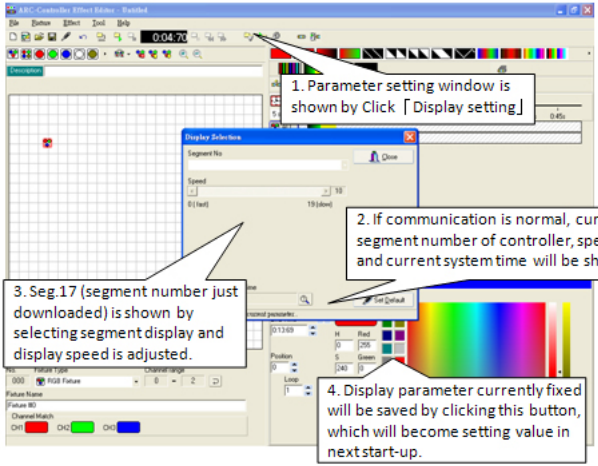
When download function is executed, the communication status will be shown in the following graph.



4. Execute and set "Display setting"


1. Parameter setting window is shown by Click「Display setting」
2. If communication is normal, current segment number of controller, speed and current system time will be shown.
3. Seg.17 (segment number just downloaded) is shown by selecting segment display and display speed is adjusted.
4. Display parameter currently fixed will be saved by clicking this button, which will become setting value in next start-up.

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Chapter 5 Remote Control

Instructions

The **COLOR**MAKER controller can support a maximum up to 170 pixels or RGB lighting fixtures. Within **COLOR**MAKER, there are 32 segments of individual lighting effects, 8 compound segments, and 20 levels display speed selections. In some of these segments, colors, locations and brightness may be changeable. Of the 40 segments of lighting effects, the 1st~16th segments are built in, and cannot be changed, while the 17th ~40th segments can be changed with software Edit and Download.

The Remote Control instructions :

Turn on/off Effects

Press button ON/OFF to turn on/off lighting effects.

Choose Effects(40 segments)

Press number keys 1 2 3 4 5 6 7 8 9 0

and then press Enter

EXAMPLE

Press 2 then Enter to display the 2nd segment.

Press 1 7 then Enter to display the 17th segment.

When switch between lighting effects, the speed parameters will not be changeable, but the parameters of the displayed color, location and brightness will be restored to the initial values.

Refer to each lighting effect instructions for respective initial values. When the 33rd~40th segments of compound lighting effects are employed, the changes in the speed, location and color parameters apply to the current segment only.

When in segment carousel, the next segment parameters will be restored to the download set values.

Pause Effects

Press Pause/Save button to pause/stop the effects

Save Start-Up Effects and Parameters

Press Pause/Save and hold for 3 seconds or more, until all lights blink 3 times to indicate the saving finishes.This can save the current effects and parameters and reload them when the controller starts up next time.

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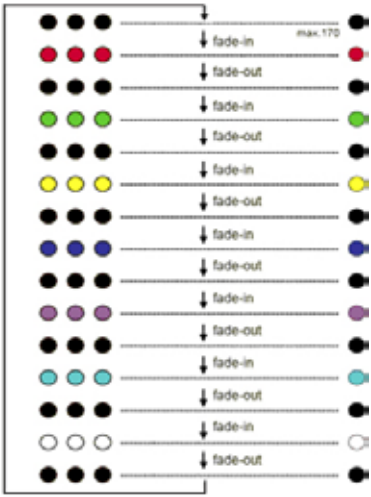
Chapter 6 Built-In Effects

Instructions
Please refer to software CD or download the pdf file from "www.arclight.com.tw"

1st Graded Change (Dark to Bright then to Dark)



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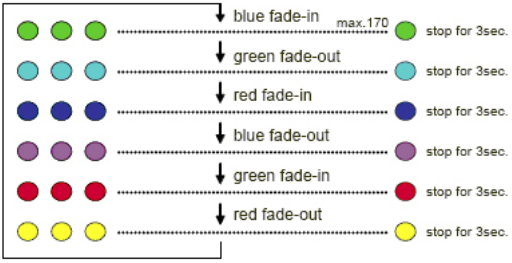
Buttons functions in this display segment :

a. Press Color to change the displaying color. The initial value is 7 colors changing in turn.

press Color once and the color changes in this turn :

b. Press ▲ ▼ to change the display speed (20 levels display speed)

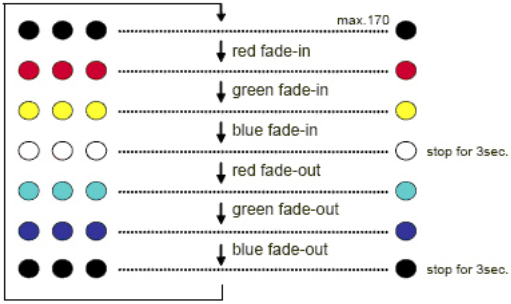
2nd Graded Change (Mixed 7 colors)



Buttons functions in this display segment :

Press ▲ ▼ to change the display speed (20 levels display speed)

3rd Graded Change "Mixed Colors all Bright"

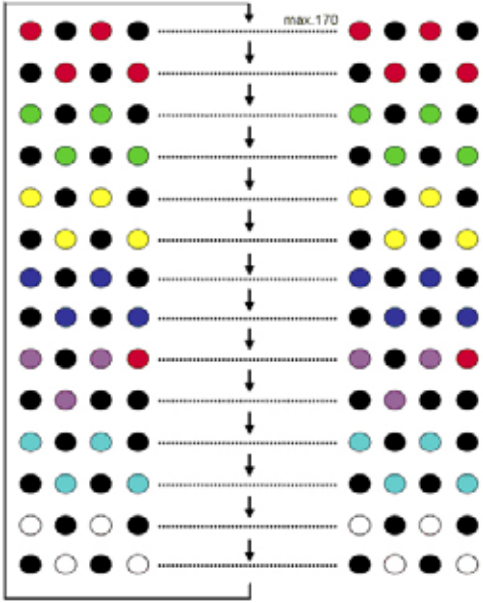


Buttons functions in this display segment :

Press ▲ ▼ to change the display speed (20 levels display speed)

EN

4th Interleave Jump(Even/Odd Points Bright)

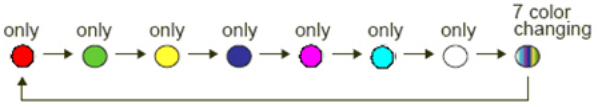


EN

Buttons functions in this display segment :

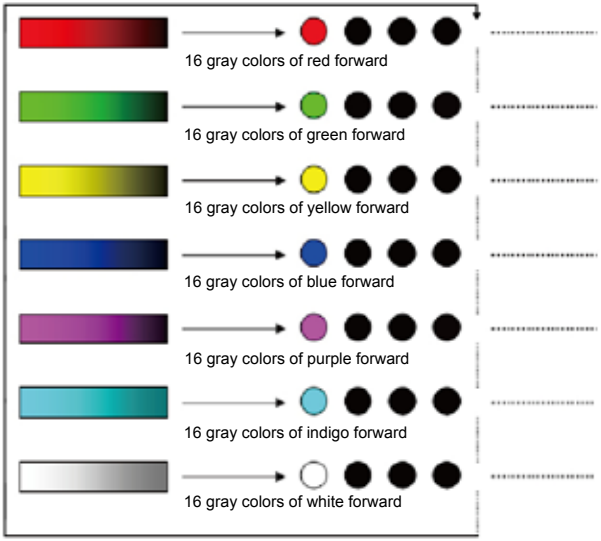
a. Press Color to change the displaying color. The initial value is 7 colors changing in turn.

press Color once and the color changes in this turn :



b. Press ▲ ▼ to change the display speed (20 levels display speed)

5th Forward Gray Colors (Bright to Dark)

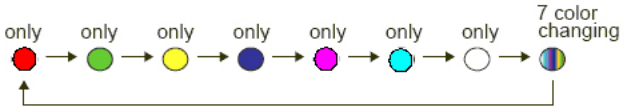

16 gray colors of red forward
16 gray colors of green forward
16 gray colors of yellow forward
16 gray colors of blue forward
16 gray colors of purple forward
16 gray colors of indigo forward
16 gray colors of white forward

EN

Buttons functions in this display segment:

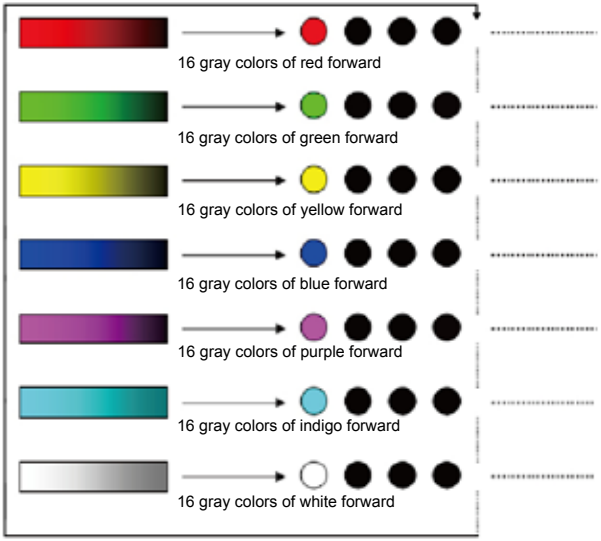
a. Press Color to change the displaying color. The initial value is 7 colors changing in turn.

press Color once and the color changes in this turn :



b. Press ▲ ▼ to change the display speed (20 levels display speed)

6th Forward Gray Colors(Dark to Bright)

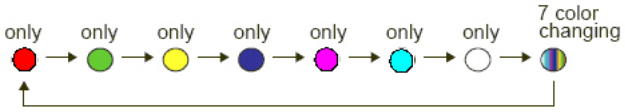

16 gray colors of red forward
16 gray colors of green forward
16 gray colors of yellow forward
16 gray colors of blue forward
16 gray colors of purple forward
16 gray colors of indigo forward
16 gray colors of white forward

EN

Buttons functions in this display segment:

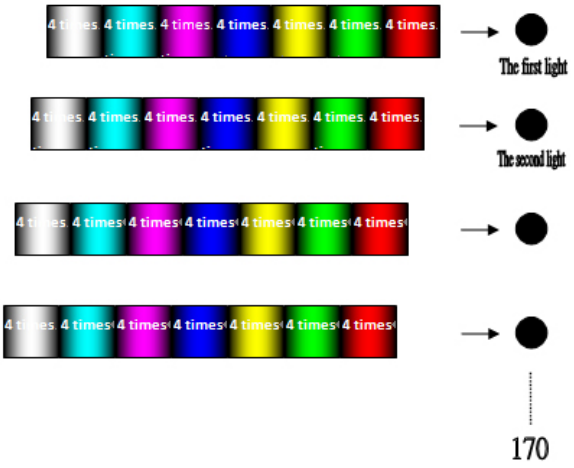
a. Press Color to change the displaying color. The initial value is 7 colors changing in turn.

press Color once and the color changes in this turn :



b. Press ▲ ▼ to change the display speed (20 levels display speed)

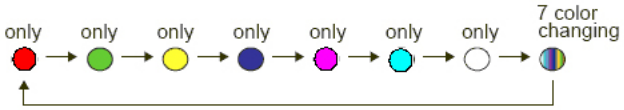
7th Forward 7 Fade in & out Colors



Buttons functions in this display segment:

a. Press Color to change the displaying color. The initial value is 7 colors changing in turn.

press Color once and the color changes in this turn :



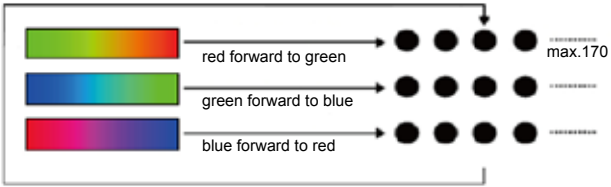
b. Press ▲ ▼ to change the display speed (20 levels display speed)

8th Forward Rainbow Colors

Buttons functions in this display segment:

Press ▲ ▼ to change the display speed (20 levels display speed)

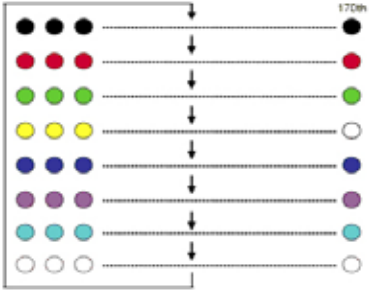
9th Forward Mixed 7 Colors



Buttons functions in this display segment:

Press ▲ ▼ to change the display speed (20 levels display speed)

10th Interleave Jump between 7 Basic Colors



Buttons functions in this display segment:

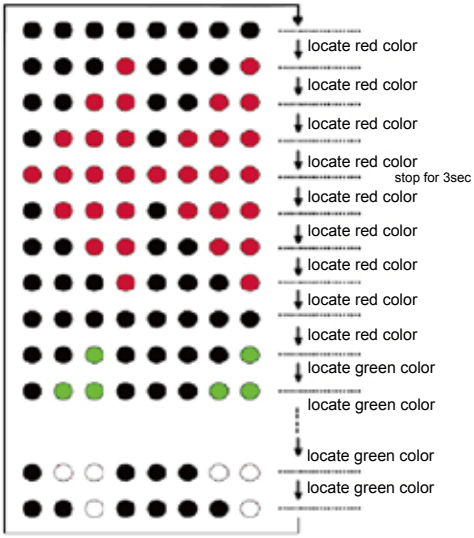
Press ▲ ▼ to change the display speed (20 levels display speed)

11th Interleave Jump in Rainbow Colors

uttons functions in this display segment:

Press ▲ ▼ to change the display speed (20 levels display speed)

12th Throw Out Colors

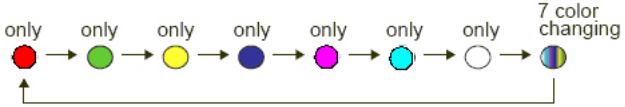


EN

Buttons functions in this display segment:

a. Press Color to change the displaying color. The initial value is 7 colors changing in turn.

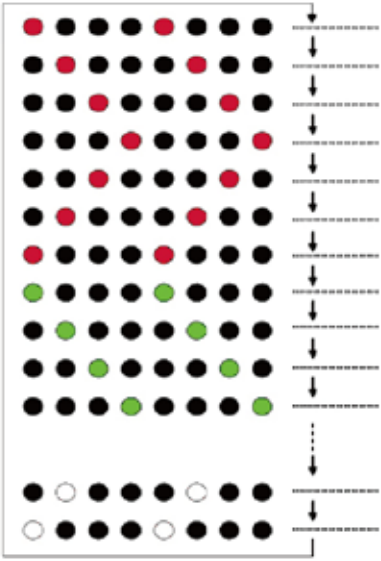
press Color once and the color changes in this turn :



b. Press ▲ ▼ to change the display speed (20 levels display speed)

c. Press + − to change the display width. The initial value is 4(fixtures).

13th Light Colors In Scanning

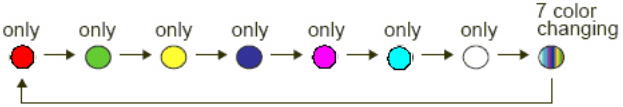


Buttons functions in this display segment:

EN

a. Press Color to change the displaying color. The initial value is 7 colors changing in turn.

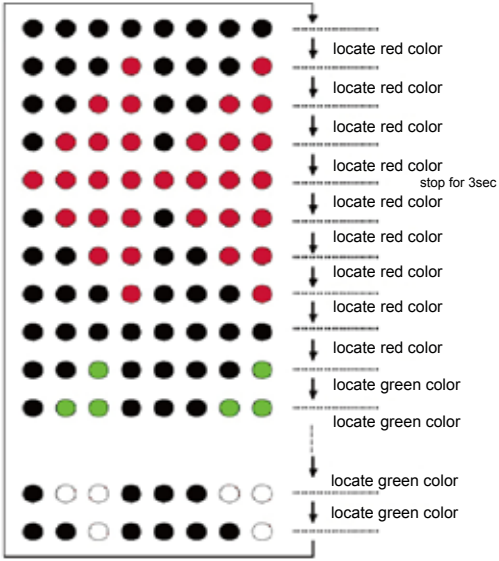
press Color once and the color changes in this turn :



b. Press ▲ ▼ to change the display speed (20 levels display speed)

c. Press + − to change the display width. The initial value is 4(fixtures).

14th Forward & Fold Colors

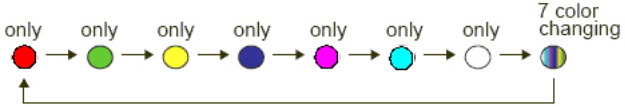


EN

Buttons functions in this display segment:

a. Press Color to change the displaying color. The initial value is 7 colors changing in turn.

press Color once and the color changes in this turn :



b. Press ▲ ▼ to change the display speed (20 levels display speed)

c. Press + − to change the display width. The initial value is 4(fixtures).

15th Fixed Colors(One Point Only)

Entering this segment, the first point displays the brightest Red ,while the other points are all black.Buttons functions in this display segment:

a. Press Color to change the displaying color, and the displaying color will blink once to remind the user. The initial color is red. Press once Color and the color changes in this turn :

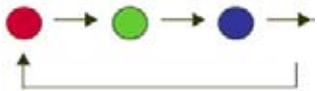
b. Press to change the brightness of the colors (256 brightness levels altogether)

c. Press to change the displaying the light points. The first point is initial. (range from 1~170 point).

16th Fixed Colors(All Points)

Entering this segment, the first point displays the brightest Red ,while the other points are all black.Buttons functions in this display segment:

a. Press Color to change the displaying color, and the displaying color will blink once to remind the user. The initial color is red. Press once Color and the color changes in this turn :



b. Press to change the brightness of the colors (256 brightness levels altogether)

c. Press to change the displaying the light points. The first point is initial. (range from 1~170 point).

Chapter 7 Troubleshooting

Troubleshooting

Please refer to the following problem causes and solutions before sending the controller for repairing. If the problems remain, contact the local dealers or service center.

Problems	Cause	Solution
Power Indicator (green) off. Other lights off.	AC to DC 12V adaptor damaged	Change AC to DC 12V Adaptor When changing to non-OEM Adaptor, pay attention to +/- poles.
	Constant voltage line of the controller damaged.	Send back to service center.
Power indicator (green) on DMX OUT indicator (yellow) on	DMX OUT controlling signal units in the controller damaged	Send back to service center.
DMX OUT indicator (yellow) on. But the lights don't display or display abnormally	Connection error	Recheck DMX+ and DMX connection
	Contact failure	Recheck DMX+- contact status
	Switched to "Display OFF" mode	Press the power button of the controller.
	Switched to "Display Pause" mode	Press the "Pause" button of the controller to continue display.
	Choose fixed color segment 15 or segment 16	Choose other segments to see if they display normally.
	Current displayed segment is empty	Switch to segments with content
	DMX OUT switched to DMX+	Open the controller case to remove JP3 JUMP
IR Remote Control failed	Battery failure	Replace batteries
	IR receiver of the controller is blocked	Move the controller to where signals can be received.
	IR receiver of the controller is damaged.	Send back to service center.
USB communication failed	USB connection error	Use common USB A-USBA cable
Windows didn't find USB to Serial drivers	USB to Serial controlling line in the controller damaged	Send back to service center.
USB Driver can be found but can not communicate with controller to download or control	Software communication ports setting error	Refer to the instructions and reset the communication ports

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Problems	Cause	Solution
The controller can not save start-up status	Memory circuit in the controller damaged	Send back to the service center.
The controller doesn't display the downloaded effects	Not switch to the download -ed user-defined segments	Use the controller to switch to the downloaded segments
Display the user-defined segments too fast / slowly	The use-defined segments shall be displayed at the speed of 9	Use the controller to switch the speed to 9.
Compound effects cannot display by schedule	Time IC damage	Send back to the service center.
	Low battery or damage	Replace battery

ARC SOLID-STATE LIGHTING CORPORATION
Tel : +886-2-8227-8217 **Fax** : +886-2-8227-3747
Web : www.arclight.com.tw **E-mail** : info@arclight.com.tw
Address : 14F-2 NO.700,Chung-Cheng Rd.,Chung-Ho City,Taipei County 235,Taiwan,R.O.C